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Do not assume content reflects current scientific knowledge, policies, or practices.

Planning the Grounds Around Your Home

OUR LANDSCAPE DEPARTMENT will assist home-owners in laying out foundation groups, outdoor living-rooms, rock-gardens, and general landscape planning. We also will direct grading, sodding, pruning, spraying and tree surgery. We shall be glad to have you consult us at any time, and without obligation of any kind.

Our Floral Department

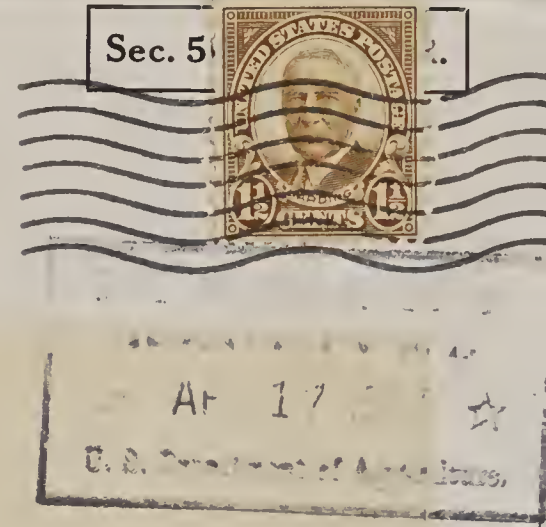
Miss Georgie Makoy, Manager of our Floral Department, is recognized by the profession as one of the most artistic designers and decorators in the Southwest.

You will find the quality and freshness of our cut-flowers and floral designs second to none, and our service trustworthy, and of course always fully guaranteed. Telephone: Dallas 5-1385.

B. E. WILLIAMS

NURSERYMAN AND FLORIST

4301 Lemmon Avenue ♦ **DALLAS, TEXAS**
RETURN POSTAGE GUARANTEED TELEPHONE: DALLAS 5-1385



U. S. DEPARTMENT OF AGRICULTURE,

WASHINGTON, D. C.

BUREAU OF PLANT INDUSTRY
Fruit and Vegetable Crops and Diseases
M. R. N.,

GPO 8-3591

ALL ROSE PLANTS ARE NO. 1, BUDDED, 2-YEAR-OLD, FIELD-GROWN HYBRID TEAS, UNLESS OTHERWISE NOTED

PLEASE NOTE: We prepay transportation charges on all orders amounting to \$2 or more. On orders less than that sum the purchaser must pay transportation charges. Make a club with your friends and neighbors and thus obtain the lower rate for large orders.

Roses listed at 35 cts. each are \$3.50 per doz.
Roses listed at 50 cts. each are \$5 per doz.
Roses listed at 75 cts. each are \$7.50 per doz.
Roses listed at \$1 each are \$10 per doz.
Roses listed at \$1.50 each are \$15 per doz.

Amelia Earhart. Plant Patent No. 63. Deep cream-yellow. \$1.50 each.

American Beauty. HP. Dark rose-pink. 35 cts. each.

Ami Quinard. Dark velvety crimson. 50 cts. each.

Austrian Copper. (Briar.) Single; copper-red with reverse of petals bright golden yellow. 50 cts. each.

Better Times. Plant Patent No. 23. Long crimson buds open into brilliant cerise flowers. \$1.50 each.

Betty Uprichard. Copper, red, and orange. 50 cts. each.

Briarcliff. Rose-pink. Pointed buds open into full double blooms. 35 cts. each.

Caledonia. Pure white. 50 cts. each.

Columbia. Bright pink; large. 35 cts. each.

Countess Vandal. \$1 each. See page 2.

Cuba. Orange-scarlet buds open to copper-red blooms. 50 cts. each.

Dainty Bess. 50 cts. each. See page 3.

Dame Edith Helen. 50 cts. each. See page 2.

Eclipse. Plant Patent No. 172. Reddish gold. \$1.50 each.

Edith Nellie Perkins. Reddish orange tinged yellow and shell-pink; large. 50 cts. each.

E. G. Hill. Brilliant glistening red; very large blooms. 50 cts. each.

Etoile de France. Vivid crimson. 35 cts. each.

Etoile de Hollande. 50 cts. each. See page 2.

F. J. Grootendorst. Rugosa. Small fringed red flowers in clusters. Adapted for hedges and specimens. 35 cts. each.

Francis Scott Key. Brilliant crimson; very large flowers. 35 cts. each.

Frau Karl Druschki. HP. Known as the "White American Beauty." 35 cts. each.

Gloaming. Plant Patent No. 137. Luminous pink, suffused salmon. \$1.50 each.

Golden Ophelia. Opens bright yellow but shades to cream. 35 cts. each.

Gruss an Teplitz. Bright red. Low growing and well adapted for bedding. 35 cts. each.

John Russell. Dark, glowing crimson, almost black. Mildew-proof. 35 cts. each.

Jonkheer J. L. Mock. Light pink, with reverse of petals light carmine. 35 cts. each.

Julien Potin. Clear yellow, very large flower on long, stiff stem. 50 cts. each.

Kaiserin Auguste Viktoria. Pure white. A favorite in the South. 35 cts. each.

Lady Hillingdon. T. Cream-yellow. Strong grower and free bloomer. 35 cts. each.

Lulu. Single; orange-pink, shading to salmon-pink. 50 cts. each.

Luxembourg. Long-pointed buds open into coppery yellow blooms with a slight tinge of pink. 35 cts. each.

Margaret McGredy. Scarlet, shading to orange, with pronounced orange tint at base of petals. 50 cts. each.

Mary, Countess of Ilchester. Deep rose-pink; blooms large and borne freely. 35 cts. each.

Mary Hart. Plant Patent No. 8. \$1 each. See page 2.

Mme. Edouard Herriot. Coral-red, shading to orange. 50 cts. each.

Mrs. Charles Bell. Shell-pink similar to Radiance. 35 cts. each.

Mrs. E. P. Thom. Canary-yellow. 50 cts. each.

Mrs. F. D. Roosevelt. Plant Patent No. 80. Golden yellow. \$1 each.

Mrs. L. B. Coddington. 50 cts. each. See page 2.

Mrs. Lovell Swisher. Salmon-pink, lighter at the edges; bud coppery salmon. 50 cts. each.

Mrs. Pierre S. du Pont. Bud reddish gold; flower deep golden yellow. Has received four Gold Medals and also the Harding Prize. 50 cts. each.

Paul Neyron. HP. Clear pink shading to rose-pink. Exceedingly large blooms. 35 cts. each.

President Herbert Hoover. 50 cts. each. See page 2.

Priscilla. Outer petals rose-pink, center petals darker. Our favorite pink Rose. 50 cts. each.

Radiance. Bright pink, growing deeper at the center. Very free blooming. The most popular pink Rose of the South. 35 cts. each.

Red Radiance. Clear red. Extremely popular. 35 cts. each.

Rev. F. Page-Roberts. Yellow with red shadings; intensely fragrant. Vigorous bush and a free bloomer. 35 cts. each.

Rosa Hugonis. Shrub Rose. Father Hugo's Rose. Flowers light yellow, about 2 inches across, and carried the full length of the slender, drooping branches which often have a growth of 8 feet. 50 cts. each.

Roselandia. Rich golden yellow. Very fine. 50 cts. each.

Roslyn. Golden yellow, shading to deep orange. 50 cts. each.

OUR GUARANTEE

We guarantee to deliver our Roses to you in first-class growing condition, and that they are true to label. Should you receive a Rose plant from us which proves to be untrue, we will replace same without cost to you. We have no control over the forces of nature and the care plants will receive; hence we cannot guarantee them to live.

Simple Hints on Rose Growing

Make the bed where it will have at least four hours of sunshine. Dig out the soil to a depth of 15 inches. Put in about 4 inches of well-decayed manure and spade thoroughly; throw back half of the dirt and mix thoroughly; then a little manure and the rest of the dirt.

Make the holes big so the roots may be spread out. Set the bud (the joint above the roots) so that it is buried about an inch—never more than 2 inches. Work the dirt in and around the roots, and press down firmly. Water thoroughly, and level the ground—do not bank. Mulch the bed with 3 to 4 inches of Peat Moss.

Williams' All-round Spray Mixture will control black-spot, mildew, and insects. Simply add water as directed. Packed in 1-pound containers. 50 cts. per lb.

Sensation. Scarlet-crimson, with maroon markings. 35 cts. each.

Signora. Plant Patent pending. Orange-apricot. \$2 each.

Souvenir. Plant Patent No. 25. Yellow blooms similar to Talisman. \$1 each.

Souv. de Georges Pernet. Brick-red with shades of yellow; ends of the petals show carmine. 35 cts. each.

Sunburst. Cadmium-yellow changing to orange-yellow; full, double. 35 cts. each.

Talisman. 50 cts. each. See page 2.

Texas Centennial. Plant Patent No. 162. \$1 each. See page 2.

Token. Plant Patent No. 95. Rich apricot, changing to soft coral. \$1.50 each.

Victoria Harrington. Very dark red. \$1 each.

White Briarcliff. Plant Patent No. 108. Pure white. \$1.50 each.

Willowmere. Buds coral-red; blooms shrimp-pink, shading to yellow; full, double. 35 cts. each.

Climbers and Ramblers

American Beauty, Climbing. Dark pink; full, double. 50 cts. each.

American Pillar. Single; brilliant crimson-pink. 50 cts. each.

Blaze. Plant Patent No. 10. Scarlet. \$1.25 each.

Cecile Brunner, Cl. 50 cts. each. See page 2.

Columbia, Cl. Silvery pink. Similar to the bush form. 50 cts. each.

Dainty Bess, Cl. Single, rose-pink flowers with red filaments holding the stamens. 75 cts. each.

Dr. W. Van Fleet. Pale pink, shading to cream. 50 cts. each.

Golden Climber (Mrs. Arthur Curtiss James). Plant Patent No. 28. Yellow, with shadings of orange. \$1.50 each.

Jacotte. Orange-yellow; large semi-double blooms; moderately fragrant. 50 cts. each.

Kaiserin Auguste Viktoria, Cl. White. 50 cts. each.

Luxembourg, Cl. Coppery yellow. 50 cts. each.

Marechal Niel. Deep golden yellow. Hardy in the South. 50 cts. each.

Mary Wallace. Rose-pink with shades of yellow; semi-double. 50 cts. each.

Mermaid. Single blooms frequently 6 inches across; pale sulphur-yellow or ivory-white. Blooms carried in large clusters. \$1 each.

Meteor, Cl. Crimson-carmine. Very free blooming. 50 cts. each.

Mme. Gregoire Staechelin (Spanish Beauty). Delicate pink blooms with petals stained crimson on the outside, slightly ruffled, and carried on long stems. 75 cts. each.

New Dawn. Plant Patent No. 1. Flesh-pink. Resembles Dr. W. Van Fleet. \$1.50 each.

Paul's Scarlet Climber. Bright scarlet blooms are borne very freely in the spring. 50 cts. each.

President Hoover, Cl. Similar in color to the bush form. 50 cts. each.

Primrose. Primrose-yellow, double flowers are borne in clusters on long stems. 50 cts. each.

Radiance, Cl. A climbing form of the familiar pink Radiance. 50 cts. each.

Red Radiance, Cl. Similar to the bush form. 50 cts. each.

Rose Marie, Cl. Clear rose-pink blooms on long stems. 50 cts. each.

Scorcher. Brilliant scarlet-crimson blooms often 4 inches across. Vigorous grower. 50 cts. each.

Silver Moon. Creamy white blooms, 4 inches or more across, shading to amber-yellow at the base. 50 cts. each.

Souv. de Claudius Denoyel. Brilliant velvety red buds opening into a glistening crimson-red flower slightly tinted with vermilion. See page 2 for color. 75 cts. each.

Talisman, Cl. Similar in color to the bush form. 75 cts. each.

Polyantha Roses

Baby Doll. Creamy pink. 50 cts. each.

Cecile Brunner. Sometimes called "Sweetheart Rose." 50 cts. each. See page 2.

Eblouissant. Dark red blooms, slightly fragrant, borne in clusters. 50 cts. each.

Else Poulsen. Bright rose-pink, single flowers borne in clusters. 50 cts. each.

Gloria Mundi. See page 2.

Golden Salmon. Flowers very large, pure orange that does not burn. Vigorous grower with mildew-proof foliage. 35 cts. each.

Ideal. Dark velvety crimson blooms in clusters. 35 cts. each.

Kirsten Poulsen. Single, bright scarlet flowers of medium size, slightly fragrant. 50 cts. each.

Lafayette. Bright cherry-crimson flowers in immense clusters of often 40 or more. Strong growing and exceedingly free blooming in habit, carrying flowers nearly the whole season. 50 cts. each.

Miss Edith Cavell. Semi-double, unusually lasting, crimson-scarlet flowers in clusters. Blooms freely the whole season. 35 cts. each.

Triomphe Orleansais. Cherry-red or deep pink flowers carried in large clusters. Blooms freely. 50 cts. each.

Climbing Vines

ANTIGONON leptopus. Queen's Wreath. Rose-colored. 1-yr. plants, 25 cts. each; 2-yr., 50 cts.

CARDINAL CLIMBER. A beautiful annual with scarlet blooms. 10 cts. each.

CLEMATIS, White, Red, and Purple. 2-yr. roots, 75 cts. each.

CLITORIA. Butterfly-Pea Vine. Azure-blue flowers resembling a butterfly produced abundantly throughout the summer. 25 cts. each.

HONEYSUCKLE, Hall's Japan. An evergreen climber with fragrant white and yellow blooms. 50 cts. each.

IVY, Boston. For walls and pillars. 2-yr. plants, 50 cts. each.

I., English. Thick, evergreen foliage. 15 cts. to 50 cts. each.

JASMINE, Carolina (Gelsemium sempervirens). Golden yellow blooms in early spring. Evergreen. 25 cts. to \$1 each, according to size.

KUDZU VINE. Rapid-growing climber with rosy purple flowers. 2-yr. plants, 35 cts. each.

LATHYRUS. See Perennial Plants.

MADEIRA or MIGNONETTE VINE. Fragrant white flowers. 15 cts. each.

MORNING-GLORY, English. Beautiful red blooms. 10 cts. each.

M., Rose Marie. Pink; double. 10 cts. each.

SILVER LACE VINE. Sprays of white bloom. 2-yr. plants, 50 cts. each.

SWEET PEA. See Lathyrus in Perennial Plants.

VIRGINIA CREEPER (Ampelopsis quinquefolia). Rapid-growing vine with heavy foliage. 25 cts. each.

WISTERIA sinensis. Heavy, 3- and 4-yr. vine or tree, 50 cts. to \$7.50 each, according to size.

Water-Lilies

Hardy Day-Blooming Varieties

Aurora. Rosy yellow, changing to red. \$1.25 each.

Attraction. Crimson, tinged white. \$2.50 each.

Chromatella. Rich yellow. Probably the best. \$1 each.

Comanche. Apricot and bronze. \$1.50 each.

Conqueror. Bright red; very large. \$1.75 each.

Escarboucle. Brilliant vermilion. Free blooming. \$1.50 each.

Helen Fowler. Clear pink. \$1 each.

James Brydon. Rosy carmine. \$2 each.

Marliac Rose. Flesh-pink. \$1 each.

Paul Harriot. Yellow, changing to orange-pink. \$2 each.

Sunrise. Clear yellow blooms 8 to 9 inches across. \$1.50 each.

Tropical Day-Bloomers

Zanzibar, Blue. Very large blooms. \$1.50 each.

General Pershing. Blooms large, orchid-pink, delightfully fragrant. \$2.75 each.

Panama-Pacific. Wine-color, turning to royal purple. \$2.50 each.

Mrs. George H. Pring. Pure white; blooms 10 inches or more across. \$2.50 each.

Tropical Night-Bloomers

Emily G. Hutchins. Amaranth-pink. \$2 each.

Frank Trelease. Dark crimson; large blooms. \$1.50 each.

George Huster. Brilliant red. \$1.50 each.

Juno. White, with brilliant yellow stamens. \$2 each.



MATADOR. Plant Patent 170

ROSES are the most interesting plants in the world—so we think. Not that we love other plants less, but that we love Roses more.

From the hundred and more Roses that we carry in stock, we show nineteen in color. They are no better than some other varieties, *but they are very popular in Dallas* and all over the state. We hope you will approve our selections. If you do, your order can be filled promptly. If you want others, look over the complete list on the first page.

MATADOR

Plant Patent No. 170

There it is, at the left, in all its glory. The color is a very dark crimson, with a silky sheen on the petals. Fragrant, too. Strong plants are only \$1.50 each; \$15 per doz.

GLORIA MUNDI

A Polyantha Rose that should be covered with golden orange and scarlet flowers. Its main attraction is the great number of flowers. 35 cts. each; \$3.50 per doz.



GLORIA MUNDI



ETOILE DE HOLLANDE



TEXAS CENTENNIAL
Plant Patent No. 162



COUNTESS VANDAL
Plant Patent No. 38



TALISMAN



ECLIPSE

Plant Patent No. 172

Golden yellow with slight touches of red at the bases of the petals. Pointed bud opening into a full bloom. \$1.50 each.



CECILE BRUNNER



**CLIMBING SOUV.
DE CLAUDIUS DENOYEL**
Blooms intermittently throughout the season.



VICTORIA HARRINGTON



DAME EDITH HELEN



PRES. HERBERT HOOVER



MARY HART
Plant Patent No. 8



WHITE BRIARCLIFF
Plant Patent No. 108



SIGNORA

Plant Patent applied for

Dark orange-red, shading to yellow at the base. \$2 each.



MRS. FRANKLIN D. ROOSEVELT
Plant Patent No. 80



MRS. L. B. CODDINGTON



GLOAMING. Plant Patent No. 137

Plant Our Roses and Have a Gardenful of Beautiful Blooms



JAPANESE
IRIS



GOLDEN FEATHER

CHRYSANTHEMUM

Golden Feather. Early flowering. Petals sharply quilled. Color a golden yellow. Plants from 2½-in. pots, 15 cts. each.

JAPANESE IRIS

Showy flowers with broad, flat petals. Plants need a reasonable amount of moisture.

Gekka-no-nami. Pure creamy white.
Gold Bound (Silver Waters). Pure white with a golden throat; double.
Kokonoiro. A rich royal purple; large, double flowers.

Strong, well-developed plants, 50 cts. each



HAHN'S BRANCHING IVY

This is a greatly improved form of house Ivy that branches much more freely and forms a handsome specimen for indoor decoration. 25 to 75 cts. each.



AQUILEGIA (COLUMBINE)

AQUILEGIA
(Columbine)
Mrs. Scott Elliott's Long-spurred Hybrids. Mixed colors. 2-yr. plants 20 cts. each; 3-yr., 35 cts.

CRAPE MYRTLE
One of the most popular southern flowering shrubs. In bloom from July to late autumn. 50 cts. to \$2.50 each.

RED-LEAVED JAPANESE BARBERRY

In habit of growth like the common Japanese Barberry, but the foliage and berries are bright red. All summer. 50 cts. to \$1 each.

PLATYCODON GRANDIFLORUM MARIESI

Dwarf. Free blooming. 25 to 50 cts. each.

HARDY PHLOX
Rose-pink. Early blooming. 25 cts. each.



CRAPE MYRTLE



RED-LEAVED JAPANESE BARBERRY



DAINTY BESS CLIMBER, and HT. (bush) ROSE



PLATYCODON



HARDY PHLOX (New Rose-Pink)

An Old-Fashioned Garden of Perennials Is a Joy Forever

Plants That Live and Bloom for Years

The height designated indicates the height at maturity; it does not mean the size of the plants shipped.

* Indicates rock-garden and border plants.

ACHILLEA Ageratum. Yellow. 1 ft. 25 cts. each.
A. filipendulina. Golden yellow. 3 ft. 25 cts. each.
A. millefolium roseum. Pink. 1½ ft. 25 cts. each.

***ETHIONEMA persicum.** Rose-color. 6 in. 25c. each.

***AGERATUM, Cardinal Mundelein.** Deep blue. Bushy and free blooming. 4 in. 10 cts. each.

***ALYSSUM saxatile compactum.** Golden yellow. 1 ft. 25 cts. to 50 cts. each, according to size.

ANCHUSA myosotidiflora. Blue flowers in April and May. 4 ft. 50 cts. each.

ANTHEMIS tinctoria. Golden Marguerite. 15 in. 25 cts. each.

ASTER alpinus. Michaelmas Daisy. Violet-blue flowers. 3 ft. 25 cts. each.

A., Lutetia. Orchid-pink with yellow center. 3 ft. 25 cts. each.

BABY'S BREATH. See *Gypsophila*.

BLAZING STAR. See *Liatris*.

BLUEBONNET. The State flower of Texas. 50 cts. to \$1 per doz.

CARNATION, Crimson King. Entirely hardy. 25 cts. each.

CASSIA marilandica. A shrubby plant with bright yellow flowers in midsummer and fall. 3 to 4 ft. 25 cts. to \$1 each, according to size.

CENTAUREA Cineraria, Silver King. 2 to 3 ft., 10 cts. each.

C. Cineraria rosea. White foliage and rose-colored flowers. 1 ft. 15 cts. each.

COLUMBINE. See *Aquilegia*, page 3.

COREOPSIS, Mayfield Giant. A new variety from Australia. Deep golden yellow. 15 cts. each.

DAISIES, Burbank, Hardje & Elder, Marguerite, and Shasta. 75 cts. per doz.

***DIANTHUS atrococcineus.** Dark crimson, double flowers. Almost everblooming. 15 in. 15 cts. each.

***D. cæsius.** Cheddar Pink. Sweet-scented; tufted growth. 3 to 6 in. 15 cts. each.

***D., Newport Pink.** Salmon-pink. 15 cts. each.

***D. plumarius.** Scotch Pink. Spicy fragrance. 1 ft. 15 cts. each.

D., Sweet Wivelsfield. Mixed colors. 15 cts. each.

DUSTY MILLER. See *Centaurea Cineraria*.

ELSCHOLTZIA Farquhari. A shrubby plant with spikes of deep pink flowers much like the Butterfly Bush. 2 ft. 50 cts. each.

***FERNS.** Hardy specimens in variety, adapted for rock-gardens and mass plantings. 25 cts. each.

GAILLARDIA. Yellow and maroon. Hardy and free blooming. 20 cts. each.

GENISTA. Scotch or Spanish Broom. Yellow flowers. 6 ft. 25 cts. to \$1, according to size.

GENTIAN. See *Texas Bluebell*.

GERBERA Jamesoni. Transvaal Daisy. Yellow, Orange, Salmon, Rose, Ruby-Red, and Cerise. Mixed colors, 25 cts. each.

GOLDEN GLOW. Full, double, golden yellow flowers. 5 ft. 25 cts. each.

GYPSOPHILA paniculata. Baby's Breath. White. 2 to 3 ft. 15 cts. to 50 cts. each, according to size.

HELIANTHUS multiflorus. Large, double, golden yellow blooms resembling dahlias. 3 ft. 35 cts. each.

HELIOPSIS, Soleil d'Or. Golden yellow; double. 2 ft. 25 cts. each.

HIBISCUS. Giant Pink Mallow. 1-yr. plants, 25 cts. each.

H., Dark Red. 1-yr. plants, 25 cts. each.

H., Spiderleaf. Red; immense flowers. 25 cts. each.

HOLLYHOCK. Double flowers in red, pink, yellow, or white. 15 cts. each.

HYPERICUM Moserianum. Gold Flower. Rich golden yellow blooms are carried all summer. Adapted for shady places. 25 cts., 35 cts. and 50 cts. each, according to size.

IRIS, Japanese. See page 3.

LATHYRUS. Perennial Pea. Pink, White, Red. 25 cts. each.

LEUCOPHYLLUM. A broad-leaved evergreen with white foliage and many purple, bell-shaped flowers. 4 ft. 25 cts. to \$1.50 each, according to size.

LYTHRUM roseum superbum. Large spikes of rose-colored flowers from June to October. One of the best perennials for the South, thriving in any position or soil. 25 cts. to \$1 each, according to size.

MATRICARIA parthenoides. Feverfew. White and yellow. 15 cts. each.

MONARDA didyma, Cambridge Scarlet. 2 ft. 25 cts. each.

M. salmonea. Rose color. 3 ft. 25 cts. each.

***MYOSOTIS palustris.** Forget-me-not. Blue flowers all summer. 15 cts. each.

***NEPETA Mussini.** Blue flowers and gray-green foliage. 8 in. 50 cts. each.

PETUNIA mexicana. A perennial Petunia with blue flowers all season. 2 ft. 25 cts. each.

PHLOX. See page 3.

***P. subulata.** Moss Pink. Flowers in Pink, Blue and Red. 35 cts. each.

PHYSOSTEGIA. False Dragonhead. Spikes of delicate pink blooms in late summer and fall. 3 to 4 ft. 10 cts. each.

PLATYCODON Mariesi. Blue; dwarf; free blooming. 1 ft. 25 cts. to 50 cts. each, according to size.

***PLUMBAGO Larpentæ.** Deep blue; 8-inch spread. 25 cts. to 50 cts. each, according to size.

***P., Light Blue.** 15 cts. each.

PYRETHRUM roseum, Mixed Hybrids. 25 cts. each.

RANUNCULUS. A trailing evergreen with button-type yellow flowers. Grows well in dry, hot soil. 15 cts. each.

SALVIA splendens. A dwarf annual plant with bright red blooms. 3 ft. 5 cts. and 10 cts. each.

S. mexicana. Mexican Blue Salvia. Plants from 2¼-in. pots, 25 cts. each.

SNAPDRAGON, New California Rustproof Strain. Special Award All-America Selections, 1934. White, Crimson, Yellow, Pink. 25 cts. for 3 plants; 75 cts. per doz.

STATICE latifolia. Purple flowers similar in form to Baby's Breath. 2 ft. 25 cts. each.

STOCK, Giant Imperial, Bismarck. Lavender, Pink, Red, Rose, and Golden Rose. 75 cts. per doz.

TEXAS BLUEBELL. Gentian. The wild flower of Texas. Rich blue, bell-shaped blooms 2 to 2½ inches across. Lasts a week or more when cut. 2 ft. 25 cts. each. Seeds of Texas Bluebell, 25 cts. per pkt.

VERBENA, Mixed or Separate Colors. Red, Pink, Purple, Blue, White, Ruby. 5 cts. each; 60 cts. per doz.

VERONICA spicata. Long spikes of blue flowers. 1½ ft. 20 cts. each.

WALLFLOWER, Hamlet. A new variety with clear golden orange flowers on 20-inch stems. 10 cts. ea.

Hardy Chrysanthemums

Large-flowering and Pompon types.

All Chrysanthemums are from 2¼-in. pots and priced at 15 cts. each, excepting Arborvitæ

Arborvitæ. Red with yellow center. Free blooming. 25 cts. each.

Black Hawk. Dark red. Large-flowering.

Bright Eyes. Light pink with mahogany eye. Button type.

Bronze Feather. Bronze, shaggy bloom.

Bruggan. Bronze. Large-flowering Pompon.

Buckingham. Lavender with yellow center.

Burgundy. Wine color. Free blooming.

Dainty Maid. Light pink. Button type.

Dazzler. Dark red. Daisy type.

Ermalinda. Lavender. Large Button type.

Ethel. Bright reddish bronze. Medium Pompon.

Friendly Rival. Yellow. Large-flowering.

Gold Feather. Golden yellow. Quilled type.

Gold Mine. Bright yellow. Pompon type.

Grenadier. Early-flowering white.

Gypsy Girl. Chestnut color; aster-flowering type.

Harvard. Dark crimson.

Henry Waite. Bronze-yellow and red. Large-flowering.

Hilda H. Bergen. Early. Red and bronze. Large-flowering.

Irene. Pure white. Early Button type.

La Nona. Rosy amaranth. Large-flowering.

Little Gem. Deep pink. Button type.

Margot. Early. Pure white. Pompon type.

Marie. Pink.

Marietta. Pink with yellow center. Anemone type.

Melba. Brilliant bronzy red. Excellent.

Minong. An early-flowering white variety.

Morning Star. Yellow, with bronze center.

October Gold. Yellow and gold. Pompon type.

Raggedy Ann. Red and yellow.

Red Light. Brilliant crimson. Excellent dwarf variety.

Rose Royal. Rose-pink. Anemone type.

Roupe! Beauty. American Beauty color with bright yellow center. Very large.

Sargent. Red. Intermediate Button type.

Scarlet Beauty. Brilliant scarlet; large.

Smith's Enchantress. Light pink; large.

Snowball. White. Intermediate Button type.

Splendor. Crimson with gold-bronze center.

Stop Light. Terra-cotta with yellow center.

Sunset. Reddish bronze. Early-blooming.

Triumph. Golden yellow and bronze.

Tuscola. Indian red and yellow. Anemone type.

Wee Dot. Yellowish bronze. Small Button type.

William II. Waite. Dark red with bronze center.

Yellow Fellow. Pure yellow, globe-shaped bloom.

Unknown Yellow. Originated in our fields. A very early Button type. One of our favorites.

Fertilizers Discussed by Dallas Man at Nursery Meeting

Needs of Soil and Virtues of Natural and Chemical Amendments Considered

By **B. E. Williams,**

Williams Nur. & Floral Co.

4301 Lemmon Avenue, Dallas, Texas

(At Group Meeting of Recent "American Association of Nurserymen" Convention)

No matter how much fertilizer you add to the soil it is useless unless there is moisture to release it. Plants live on liquids alone. They depend for their very existence and growth on what you might call "weak soup," for they take their food only in solution. With sufficient moisture and good drainage, beneficent bacteria by the millions are present which decompose the soils and fertilizers and in doing so release the three vital elements to plant growth—nitrogen, phosphoric acid, and potash. Probably the best known fertilizer for general purposes is stable manure. In many places the supply of this material becomes scarce and more expensive. This is more or less true of cow and sheep manure. Cow manure is considered better for flower gardens; but in any case the manure should be well decomposed though not too old, in which case it is useless except for the humus it furnishes.

Essentials of Good Soil

A good soil should contain enough slowly available plant food to prolong its usefulness for a number of years, be rich in available organic plant food, be porous enough to allow surplus water to drain away, containing a large amount of organic plant food to feed plants; and maintain the work of soil bacteria. The group of soils called loam comes nearest to fulfilling these conditions. When the loam lacks something we can supply it artificially. Humus is decayed vegetable matter and is responsible for many qualities of good soil. Humus increases the water-holding capacity of the soil, increases soil aeration, benefits the soil structure, and promotes important chemical changes. Sand may loosen a clay loam but does not add any plant food. Sandy soil, on account of its almost

perfect drainage and poor water-absorbing qualities, may be greatly improved with peat moss, as peat moss not only holds the moisture but binds the sand together; while it causes heavy clay soils to become loose and friable.

Peat moss absorbs and holds ten times its own dry weight, twenty times as much as good soil and fifty times as much as sand, is more fibrous than compost and less thoroughly decomposed. It is a non-fertilizing humus in a state of arrested decay, but acts as an agent by storing the moisture so necessary to release the plant calories and vitamins contained in the soil and at the same time supplies that much needed drainage. After the soil is mechanically improved, we should consider its chemical fitness. Of the elements necessary for plant life, hydrogen and oxygen are supplied by water, carbon is derived from the air, and iron and sulphur are usually present in the soil in sufficient quantities; while the elements nitrogen, phosphorus and potash must be added artificially. The largest proportion of nitrogen is provided by decaying organic matter. For the best welfare of our plants, we add the elements which are not found in large amounts in the soil. Nitrogen is essential for the leaf and stem growth, potash for the root system, and the phosphates for hastening maturity. An over-supply of any one of these is harmful. We must discover what is needed and how much to supply.

Nitrogen; Phosphorus

If the soil is dark, it will probably be rich in nitrogen; and a weak growth and lack of proper bloom will be the result. Among the nitrogenous fertilizers we have such organic products as dried blood, tankage, horn shavings, dried fish, tobacco stems and cottonseed meal. Some of these are highly concentrated and must be used carefully. Horn shavings are used for potted plants which are to remain in their pots for quite a while. Cottonseed meal is a fine lawn fertilizer and is often used as grass seed is sown. It has an acid

effect and is very rich in nitrogen. The inorganic nitrogenous fertilizers include soot, nitrate of soda, ammonium sulphate, calcium, nitrate and urea. The soot should be three to four months old and should never be mixed with lime. The calcium nitrate and urea must be used very carefully; the latter is often mixed with sand. Ammonium sulphate is applied to leaf plants when they are growing. Nitrate of soda is a quickly available plant food, but care must be taken not to get any on the foliage. It is used either in liquid form or as a powder.

Phosphorus is provided in the soil by using various phosphates such as bone meal, basic slag, acid phosphate, and bone flour. Bone meal is a slowly available fertilizer and should be applied in the fall. Bone flour gives quicker results and can be applied in the spring. Basic slag is applied in the fall to roses and perennials and on heavy soils. Acid phosphate is a quick-acting fertilizer and is applied to growing crops in spring and summer.

Potash; Lime

Lack of potash in the soil is due to leaching away by surplus rain water and poor drainage. One of the underlying causes of poor farm and garden soils, is the absence of this element. Among the fertilizers which supply potash are kainit, potassium sulphate, muriate of potash, and wood ashes. Kainit and muriate of potash are applied in the fall. Potassium sulphate is a quick product that is applied in the spring. Wood ashes are especially valuable for top dressing rose beds in the spring or summer.

There are many who use lime year after year and others who wonder what is the matter with their soil. Lime or calcium is an essential plant food. It is more valuable for its indirect effects. Lime is the material which has the power of sweetening sour soils, rendering other plant foods more available, making clay soils more porous and sandy soils heavier, increasing decomposition and neutralizing acidity. In addition to these qualities, it is used as an insecticide and fungicide. Hydrated lime is the safest and can be applied as a light "snow" over the soil either in spring or in the fall. It may be cultivated into the soil or left to soak in by the rains. On soil that has been used for a long time, a heavier application is necessary. Acid-loving plants should not be treated with lime.

